



Weather and Climate



Denali Summer 2013 Weather Summary

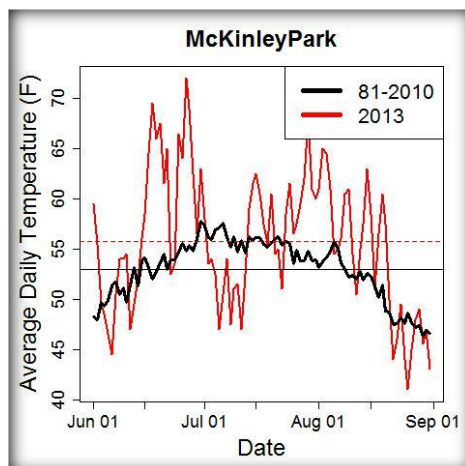
Was Summer 2013 Normal?

The summer was warm and dry compared to normal.

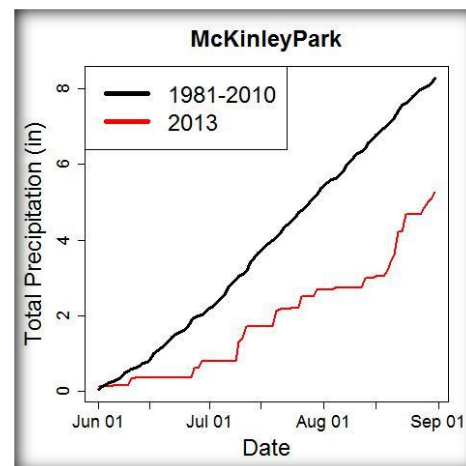
Temperatures flip flopped after a chilly May. The month of June was the second warmest on record and monthly rainfall was only 37% of normal. July remained dry, but temperatures were closer to normal. The beginning of August was warm and dry, but the last two weeks were cool and wet. The summer season ended up at +2.8° F warmer than normal with 65% of normal precipitation.

June temperatures were above normal at Denali Park HQ for all but seven days. Record high temperatures were broken on June 26 (88° F), 27 (86° F), and 29 (83° F). Overall, the average monthly temperature was 57.8° F, five degrees warmer than normal. 2013 was the second warmest June on record after 2004. June was also exceptionally dry, with only 0.79 inches of rainfall compared to a normal of 2.15 inches. It didn't rain at all from June 12-26. The first two weeks of July had below normal temperatures but by mid-month temperatures warmed and stayed above normal for most of the remainder of the month. A daily record high temperature of 83° F was set on July 29. July ended up +0.6° F warmer than normal. Dry conditions persisted into July and rainfall totaled 1.92 inches, only 59% of normal. August remained warmer than normal with an average monthly temperature of 53.4° F compared to a normal monthly average of 50.6° F. In particular, the first half of the August was warm, with 19 out of the first 20 days of August recording temperatures above normal, leading to a spike in wildfire activity. Things cooled off for the latter half of August and the first freeze of the summer was on August 25. The first half of August was dry, with only 3 days recording a total of 0.30 inches through August 14. The faucet turned back on for the second half of the month with 2.27 inches of rainfall. Even with cool and wet conditions the last two weeks of the month, August still ended up at +2.8° F warmer than normal with 95% of normal precipitation.

Denali Park HQ – Average Air Temperatures



Denali Park HQ – Cumulative Precipitation



Denali Summer 2013 Weather Summary

Denali Park HQ Weather Records:
Climate Normal Period 1981 – 2010
Climate Record Period 1925 – 2013

Temperature

| Summer 2013 | Average Monthly Temp °F | 1981-2010 Normal °F | Departure from Normal °F | Monthly High °F / Date | Monthly Low °F / Date |
|-------------|-------------------------|---------------------|--------------------------|------------------------|-----------------------|
| June | 57.8 | 52.8 | +5.0 | 88 / June 26 | 35 / June 6 |
| July | 56.2 | 55.6 | +0.6 | 83 / July 29 | 36 / July 8 |
| August | 53.4 | 50.6 | +2.8 | 79 / Aug 2 | 28 / Aug 25 & 26 |

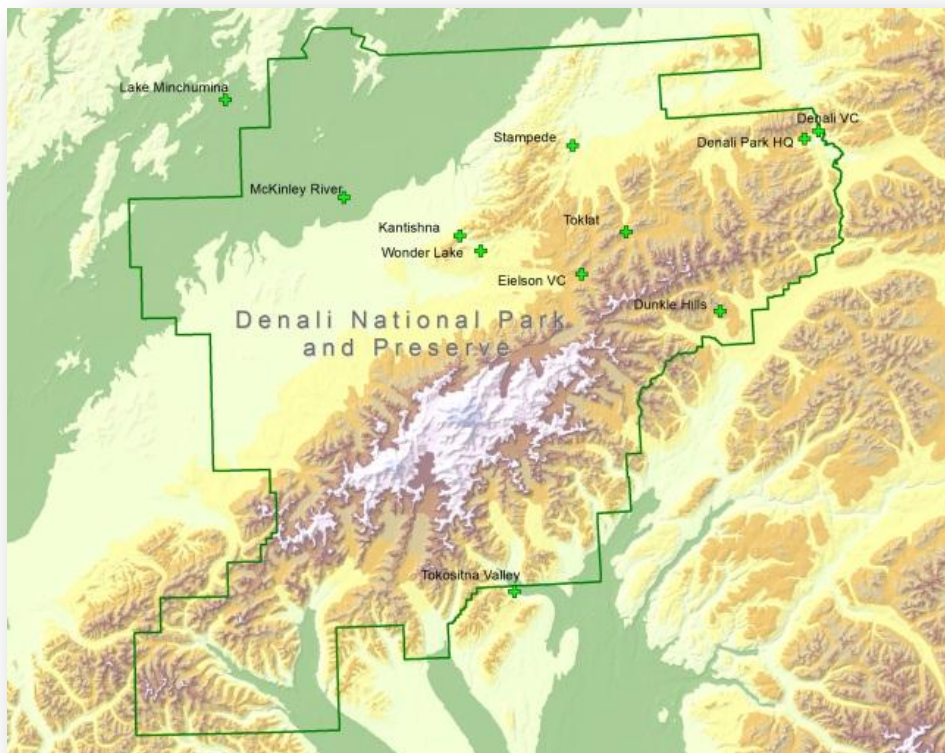
Summer Season Temperature Departure from Normal: +2.8°F

Precipitation

| Summer 2013 | Total Monthly Precip in. | 1981-2010 Normal in. | Departure from Normal in. | Greatest 24 –hr total in. / Date | # Days with ≥ 0.01 in. rain or snow |
|-------------|--------------------------|----------------------|---------------------------|----------------------------------|--|
| June | 0.79 | 2.15 | -1.36 | 0.23 / June 27 | 8 |
| July | 1.91 | 3.22 | -1.31 | 0.5 / July 9 | 11 |
| August | 2.57 | 2.71 | -0.14 | 0.60 / Aug 21 | 15 |

Summer Season Departure from Normal: -2.81 inches

There are additional NPS climate stations in Denali that complement the long-term record available from the National Weather Service station at Park headquarters. These additional sites provide critical data on a park-wide scale that help characterize the climate gradients and patterns affecting resources in Denali National Park and Preserve.



Denali Summer 2013 Weather Summary

Denali Remote Automated Weather Station (RAWS) summaries – Summer 2013:

| Site | Elev. Ft. | Summer 2013 Average Temp (°F) | | | *Precipitation (inches) | | | Peak Wind (mph) |
|------------------------|--------------|----------------------------------|------|------|-------------------------|------|------|-----------------------|
| | | June | July | Aug | June | July | Aug | |
| Denali Visitor Center | 1650 | 60.3 | 55.2 | 54.6 | 0.5 | 1.54 | 3.55 | 24 |
| Toklat | 2920 | 55.1 | 53.1 | 49.6 | 1.09 | 3.91 | 3.92 | 28 |
| Eielson Visitor Center | 3653 | 54.3 | 51.5 | 48.8 | 1.74 | 8.55 | 6.83 | 31 |
| Wonder Lake | 2050 | 59.5 | 56.4 | 52.1 | 0.88 | 3.74 | 3.22 | 34 |
| Stampede | 1800 | 58.3 | 56.1 | 51.9 | 0.74 | 0.77 | 2.16 | 13 |
| Kantishna | 1550 | 58.4 | 55.8 | 52.3 | 1.3 | 4.4 | 3.6 | ** |
| McKinley River | 863 | 63 | 59.8 | 54 | 0.4 | 3.82 | 2.81 | 26 |
| Dunkle Hills | 2651 | 53.6 | 52.6 | 49 | 0.62 | 0.68 | 3.61 | 30 |
| Tokositna | 850 | m | 56.4 | 53 | 0.9 | 4.6 | 8.6 | ** |

*Preliminary data subject to revision – precipitation gages are not shielded and therefore rainfall totals may be lower than actual amounts. **Wind not measured.

Interesting notes from RAWS stations

- Microclimates and mountain weather are evident when looking at the precipitation totals at Eielson Visitor Center. 8.55 inches were measured in July, compared to 1.54 inches at the Denali Visitor Center.
- Typically, July is the warmest month on the year. However this year June had the warmest average temperature for all Denali RAWS stations.
- Kantishna had the driest June since records began in 2006. There were only four days in June with measureable precipitation.



Climate station near Eielson Visitor Center

Please Note: The summarized data are preliminary and have not undergone final quality control. Therefore, these data are subject to revision.

Connecting Further

[Central Alaska Network](#) climate monitoring vital sign

Access near real-time data from [Western Regional Climate Center](#) and [MesoWest](#)

Check out the Jul-Aug-Sep weather outlook from the [NOAA Climate Prediction Center](#)

Statewide summary of weather highlights in the latest [Alaska Climate Dispatch](#) from the Alaska Center for Climate Assessment and Policy

[Map](#) of projected temperature and precipitation changes Denali National Park and Preserve.

For more information contact:

Pam Sousanes or Ken Hill
Central Alaska Network

pam_sousanes@nps.gov; kenneth_hill@nps.gov

907.455.0677

907.455.0678